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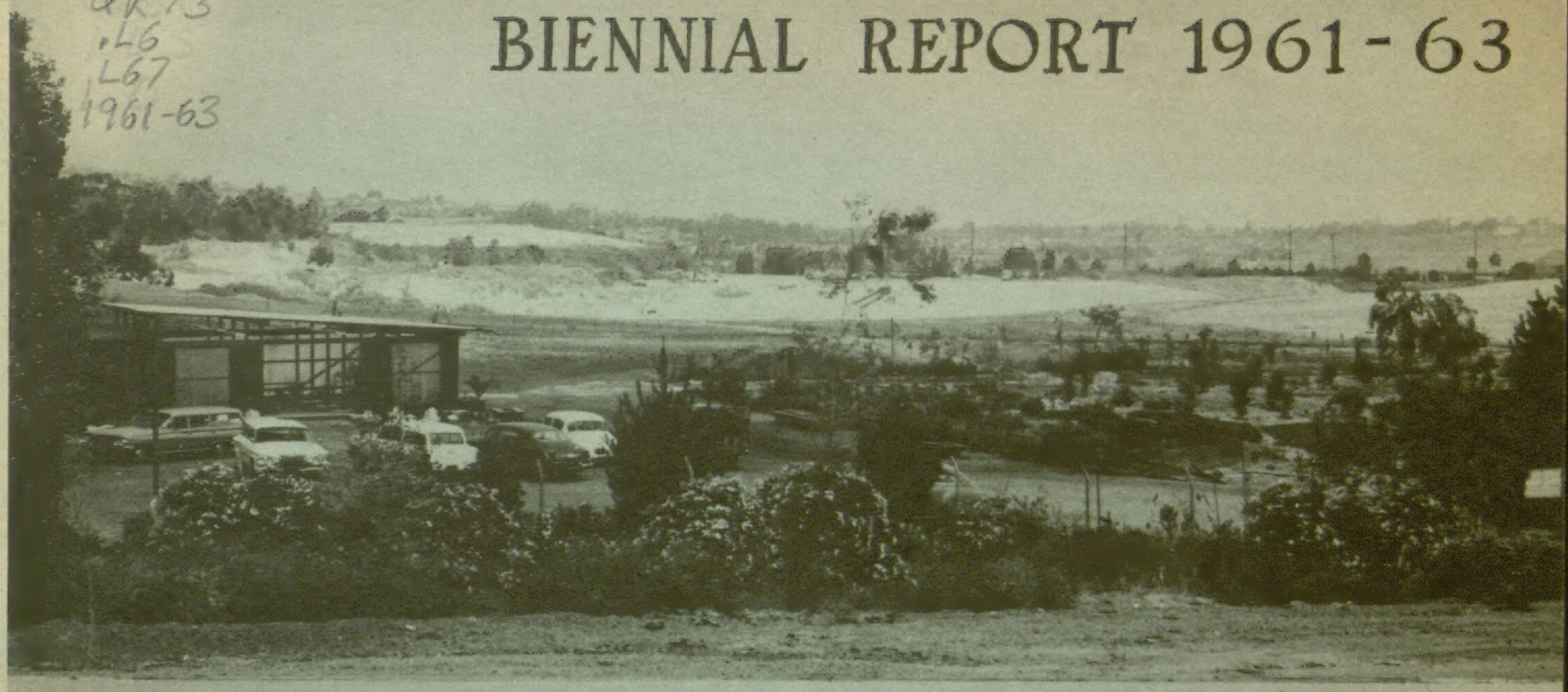
BIENNIAL REPORT 1961-63



LOS ANGELES COUNTY
DEPT. ARBORETA & BOTANIC GARDENS MAR 17 1964

LOS ANGELES COUNTY DEPT. OF ARBORETA & BOTANIC GARDENS

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County of Los Angeles

DEPARTMENT OF ARBORETA & BOTANIC GARDENS

Los Angeles State and County Arboretum, Arcadia, California
(Department Main Office - telephone 691-7718 or 446-8251)
Descanso Gardens, La Cañada, California
South Coast Botanic Garden, Palos Verdes Peninsula, California

September 12, 1963

Board of Supervisors
County of Los Angeles
500 West Temple Street
Los Angeles 12, California

Gentlemen:

The accompanying report presents very briefly the important role being played by this Department in the development of Los Angeles County.

Serving as a well-spring for horticultural and botanical knowledge, the Arboretum and Descanso Gardens have brought beauty and plant knowledge to the attention of over 1,400,000 visitors during the 1961-1963 interval. This is indicative of an increasing awareness that "Man does not live by bread alone" and that the spiritual appreciation of beauty in his surroundings is as important to him now as it was to the cave man who decorated his dwelling with drawings.

Increasingly, business men are realizing that beauty is good business and that there are tangible returns on their investments in the intangible "beauty."

The value of landscaping with beautiful plants lies in its round the year benefits to the citizens, individually or collectively. It is in this direction that the Research Division of this Department, through its plant introduction program, is making many contributions. Of immediate tangible value are studies on fire resistant plants and on protection of living plant tissues from air pollutants.

The Education Division of the Department plays the role of liaison agent in man's existence by passing on to the citizens information from the vast storehouse of plant knowledge created by the researchers and scholars.

It is precisely this craving for knowledge and beauty that has led to the expansion of this Department and that has resulted in the yearly attendance increasing from 50,000 in 1955-56 to 435,000 in 1962-63. The citizens realize that plants daily influence their lives, and they are interested in learning more about them.

It is my privilege and pleasure, on behalf of the staff of this Department and our Board of Governors, to present this report which summarizes our horticultural and botanical work for the period 1961-1963.

Respectfully submitted,

William S. Stewart
Director

WSS:mvf

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About the Covers

Front - The composite picture represents the entranceways of the Department's three major facilities. The first is of the temporary entrance to South Coast Botanic Garden, located in the Palos Verdes Peninsula area; the second is of the new entrance and forecourt at the Arboretum; and the third is of Descanso Gardens new gatehouse and entrance.

Back - A delightful view of the Entertainer's Garden, which is one of four uniquely designed garden patio areas comprising the Arboretum Foundation - Sunset Magazine Demonstration Home Gardens at the Arboretum.

LITHOGRAPHED BY COUNTY OF LOS ANGELES CENTRAL DUPLICATING BUREAU PURCHASING AND STORES DEPARTMENT

PART I. Activities of the Department

From July 1, 1961 to July 1, 1963 the Department's major efforts have involved the establishment of South Coast Botanic Garden as a facility, the development and completion of the Master Plan for Entranceway Development at the Arboretum and completion of the development plan for Descanso Gardens.

It is interesting to note that the South Coast Botanic Garden has progressed rapidly over the last two years with expansion of the total acres involved from three and one-half to over thirty, and from one employee to five. Many new plant and shrub donations have been received as well as the construction of a display greenhouse and saran shade structure, to mention but a few of the improvements. Further, great interest has been demonstrated by members of the South Coast Botanic Garden Foundation, Inc. whose dedicated efforts in promoting, donating, and actually working at the site have given the Garden the impetus needed to speed its progress. All of this work and construction was culminated by a very successful First Annual Flower Show on May 31, June 1 and 2, 1963, and attended by over 3,000.

Much work on the Arboretum Entranceway Development has brought to completion several units of the Master Plan and improves the vista the visitor first sees when arriving at the Arboretum.

The Descanso Gardens Entranceway was much improved during the last two years with the removal of the old service area from near the entrance. The service unit was reinstalled in a new area northeast of the lake. Also, the entrance area was improved further by the planting of a lawn area, annual flower beds, and the installation of curved paved walkways. During this period, an architect's plan for development of an Oriental Garden and Teahouse have been approved and preliminary purchase of materials and electrical work has been completed.

Additional research work was carried on during the two-year period and many advances have been made on the fire resistant project and, more recently, on the turf grass test plots.

The Education Division expanded the Professional Gardeners' School, and has made progress in the Historical Area that is now under the direct supervision of an Associate Curator who has installed and programmed several shows and many exhibits during the period.

A view of the nursery area at the Arboretum including the shade house in foreground and two hot houses and head house in background.

PART II. Operating Divisions

ARBORETUM

The most visible accomplishments in the development of the Arboretum grounds during the two-year period covered by this report are in the Entranceway and Forecourt areas. The two pools mentioned in the 1959-1961 Report have now been completed. They are the Gateway Pool, located at the western end of the parking lots and the Bauer Pool, located midway between the Gateway Pool and the western terminus of the proposed Entranceway Development. Both pools are faced with travertine marble. During 1963 the Bauer Pool was further enhanced by the installation of a 15 foot wide travertine walkway encircling it. The two pools have been temporarily connected by decomposed granite pathways in lieu of the final marble walkways. A lawn area was planted and is now established between the pathways as has the area between the Gateway Pool and Baldwin Avenue. Plantings of Pinus pinea, the Italian stone pine, and Podocarpus macrophylla have been made in the areas north and south of the grass panel. The pines were donated by Mr. Archiblad Young and the Podocarpus were donated by the Diggers Garden Club of Pasadena.

The area immediately north of the Bauer Pool was cleared of the annual and perennial plants, and it will be included in the general forecourt development.

The newest and most visible constructions are the two 15 foot high by 60 foot long travertine faced walls flanking the Gateway Pool to the north and south. A considerable planting of small trees has been completed in the area surrounding the pools, but the need for a few large specimen trees is quite evident. A total of about 50 trees and shrubs are already installed with more to follow.

In the Gateway Entrance, a new tram loading area was constructed consisting of a metal frame covered with saran. A lawn was established and three large flowering trees were moved from other parts of the grounds. Also, in the Entranceway a new "Bromeliad Display Tree" was made in the center of the ramp area leading from the Gatehouse to the Library. Flowering trees were planted to enhance the parking lot.

Nursery: A regular program of growing plants for use on the Arboretum grounds has been continued in a satisfactory manner. In addition, propagating stock of several new plants was made available to nurseries during this period in furtherance of our program of introducing new species to the general nursery trade. A continuing program of testing new plant species from all over the world for use as street trees, park and public grounds plants as well as for use in home yards was continued. In addition to our regular growing program, displays for the education and benefit of the public have been maintained in the Gatehouse area, Rotunda area, and throughout the Home Demonstration Gardens. This has become an increasingly active program and is most favorably received by the public. Responsibility for this display program rests entirely on the propagation section so far as growing and arranging plants for the display is concerned.

The Begonia Greenhouse has been renovated and rearranged with a considerable addition of new plants to the collection. A species begonia collection is maintained as a reserve of genetic material for breeding purposes.

Home Demonstration Gardens Area: Major changes in these gardens are reflected in the construction of a new greenhouse-lathhouse in the hobby garden area. This new and different structure was designed and installed by Aluminex, Inc., and consists basically of an aluminum frame with plastic for the top and north side and glass on the south side. Included in the structure are heaters, coolers, and adjustable metal benches.

A new walk installed between the lower patio in the entertainer's garden and the barbecue area improved the Gardens and at the same time has increased the visitor's safety. During the year, Monrovia Nursery, Deigaard Nursery, and Mordigan Evergreen Nursery have installed displays in the Plant Collector's Garden, and during the latter part of the summer the Los Angeles Cactus and Succulent Society presented an outstanding display of cactus and succulents in this area.

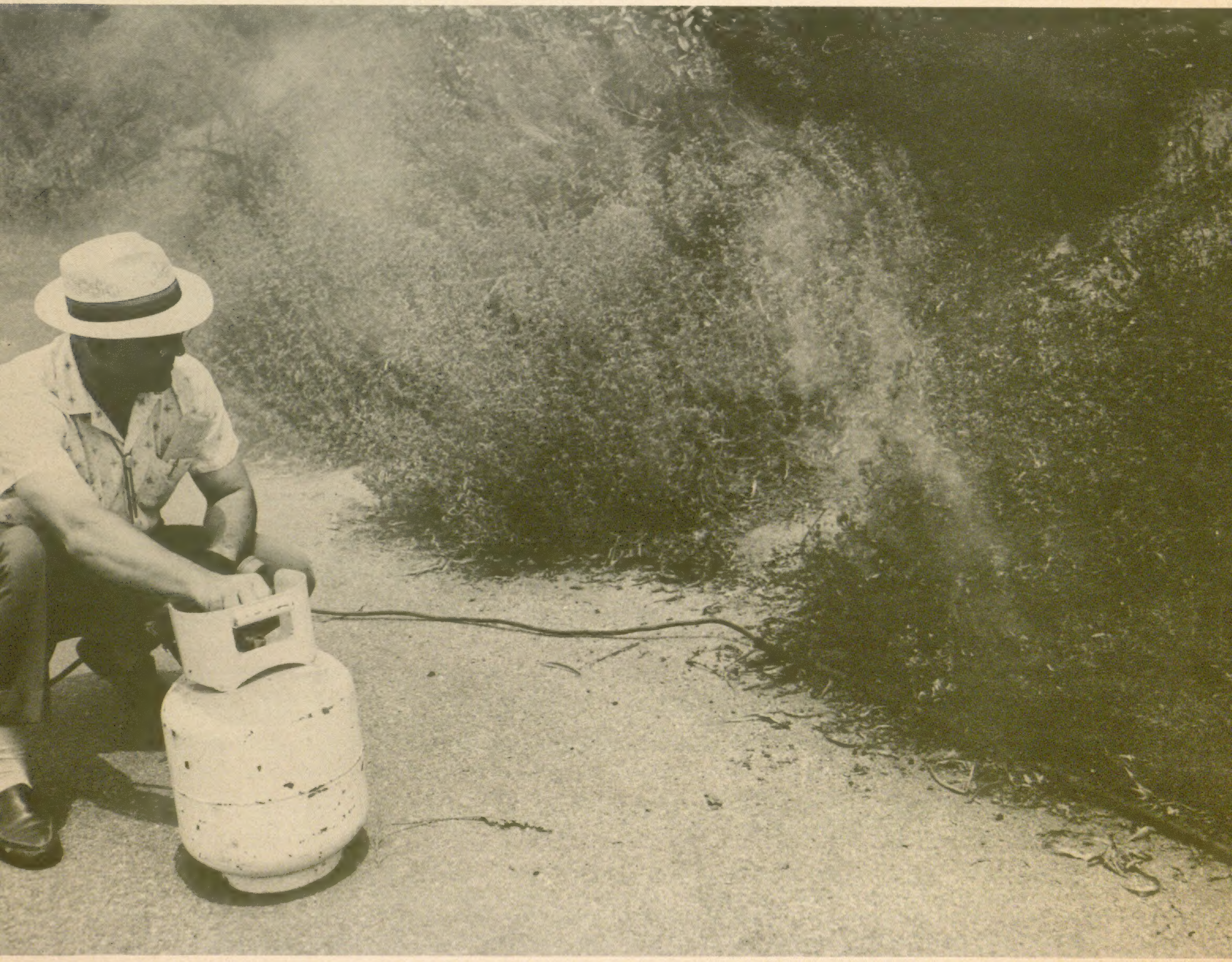
The plant introduction and testing program continues at approximately the same pace. Selections have been made from the Crape Myrtles (Lagerstroemia indica) mentioned in the 1959-1961 Report and seedlings grown from additional selected plants

have been replanted.

An extensive renovation of the soil in the display garden area has resulted in greatly improved growth of plantings. The 1962-63 season was the finest ever experienced.

On Tallac Knoll, through the aid of juvenile labor crews, the paths in the tropical garden on top of the Knoll were relocated to provide for additional plantings. Also, bromeliads were established in the branches of the oak trees in the Biblical Garden. The pinetum has been further improved by the removal of old eucalyptus trees. A generous gift of 20 varieties of juniper from Monrovia Nursery enabled the establishment of a demonstration planting on the north side of the Knoll, immediately adjacent to the pinetum plantings. The South American Section has been relocated on the southeast slope of Tallac Knoll. Stabilized decomposed granite paths have been installed and a start has been made in planting this new area.

During 1961-63 tensiometers were installed in various areas throughout the grounds in a study aimed at revision of the watering program so that adequate moisture could be maintained with a minimum use of water. To date they have proved valuable and a considerable water savings has resulted.



Dr. Gonderman, Plant Physiologist,
demonstrating the degree of fire resistance of Cistus.

South African Section: The planting of large areas with Dimorphotheca aurantiaca was begun two years ago and has been a source of interest to our visitors each spring. It has furnished an outstanding display for a month to six weeks.

Herb and Knot Gardens: The Knot Garden Section has been completely re-designed and replanted. This was a rather extensive project and its completion is, in great part, due to a contribution of $1,200 from the Southern California Unit of the Herb Society of America. A vote is given this organization for its continued interest and support, not only through cash donations, but through the participation of its members in propagating and growing plants for the garden.

Lagoon Areas: The upper lagoon has been maintained in its natural state for use by the Educational Division in nature courses. The most notable addition to our lagoons has been a pair of black swans which have yearly produced a clutch of cygnets. However, for the first time their progeny are maturing and will be a valuable addition to the lagoon. Nesting areas have been provided for wild ducks and efforts are being made to encourage other migratory water birds to nest here.

Arboriculture Section: Participation in tree seminars and conferences has helped to bring all phases of Arboretum tree knowledge to varied groups as well as to the general public.

During 1961-63 there were approximately 1,800 telephone calls regarding information on tree care, turf maintenance, and control of various garden insects and diseases.

The workload of this section is cumulative and increases as the trees mature. The 1961-63 workload of the Arboretum, Descanso Gardens and Lux is as follows:

Trimmed approximately 1,823 trees and topped 381 trees for the health and welfare of the trees and for protection of visitors; removed 442 dead and dangerous trees from the grounds; chipped 1,274 loads of brush to prepare compost and avoid hauling it to the dump; inspected 1,935 trees for pests and diseases; sprayed 16,048 trees for control of injurious pests and diseases. For the first time in the history of the Arboretum we deep fed 1,900 large trees using an hydraulic method. Total gallonage of water used in spraying and irrigating was 240,540 gallons. Hauled 214 loads of logs and stumps to the dump and corded 40 cords of firewood which were sold at auction by the County. Also, we planted 226, staked 122, and watered 856 trees.

Assistance was rendered in setting up flower shows and also in the initial plantings at South Coast Botanic Garden. New equipment obtained during the last two years consisted of a truck with a 30 foot aerial boom and a larger chipper. This equipment greatly assisted in modernizing tree maintenance techniques and has extended the area that can now be serviced.

Palmdale Unit: Considerable frost damage at the Palmdale Unit during 1962-63 has resulted in some losses, but the addition of a new area with improved watering facilities will enable installation of additional plantings that should provide results by the next reporting period.

Lux Arboretum: Routine maintenance has been continued and a new water distribution box has been installed to improve the supply of locally obtained water.

DESCANSO GARDENS

Many changes and improvements have been made in Descanso Gardens during the last two years. The most important was the complete renovation of the entrance areas. All existing service and garage buildings were removed and the area re-landscaped with plantings of shrubs, trees, flowers, and lawns. Sprinkling systems were installed and through donations from the Descanso Gardens Guild a complete underground night lighting system was put in operation extending 500 feet in all directions from the entrance. New black top roads and paths in this area were provided.

A building addition of 130 square feet was added to the Gatehouse, tripling its size.

The service area was dismantled, moved, enlarged, and finally reassembled on a new 17,000 square foot black top area in the northwest section of the Gardens. Water, power, and telephone service was then supplied to this area. An eighty-foot aluminum roofed shelter was built to house the tram to the north of the new service area.

At the edge of the Camellia Forest, a pavilion has been built to house Camellia and Daffodil show trophies as well as other cut flower displays for the remainder of the year.

As a Capital Project, an existing eight acre piece of land was developed and added to the Native Plant Garden. Also added were two new paved roads. A natural waterway of rock and cement including a pool, circulating system, pump, and underground electrical installations were constructed. Overhead watering systems were put into operation in the shaded canyon areas of this Garden as well as a complete water system in the newly developed area. Hundreds of different native plants were set out in both gardens. This area is becoming a major attraction to nature lovers.

A start was made on developing a new Japanese Tea House and Oriental Display Garden. Electrical conduits and outlets have been put in place, plants and trees in the area are being readied for the new garden, and special oriental light fixtures purchased. Final architectural plans have been completed and construction should start soon providing an all-year attraction for the Gardens.

Many special jobs were completed by the Los Angeles County Mechanical Department which included painting all exterior woodwork and one-half of the interior walls of the Hospitality House; building of a wire fence around the circular reservoir; air-conditioning of the main building; reupholstering of ten sofas and eight chairs in the Garden House; repainting the entrance area and Gatehouse No. 2; resurfacing 65,000 square feet of pavement in parking lot No. 2, and by-passing of the water tank in Hall-Beckley Canyon which had been the cause of a severe water loss.

Many new plants were added and helped beautify the gardens, including 60 Shamel ash trees, 62 erythrinas, 20 oaks, 13 red maples, 225 azaleas, 18 magnolias, 185 camellias, 900 dwarf rosemary, 20 pines and several thousand tulips, anemonies, ranunculus, gladiolus, iris, daffodils, and other annual bedding plants which keep the Gardens always in bloom.

A glass trophy case was installed in the Hospitality House by the Pacific Camellia Society. Many new and rare camellia plants were received from Mrs. Ralph Peer, Mr. K. O. Hester, and Mr. Harvey Short, and other persons. Mr. and Mrs. Irving Schoen donated a 9' x 16' aluminum glass house and an 8' x 12' glass house was given for use of the Children's Education Department. Bulbs, roses, and other plants were donated by Rancho Santa Ana Botanic Garden, Davids and Royston Bulb Growers, La Crescenta Garden Club, Brownie and Girl Scouts, Jan de Graff Bulb Farms, and rose growers from all over the United States.

Activities carried on in the Gardens during the last two years were outstanding and varied. The Descanso Gardens Guild, Inc. sponsored two Christmas Decoration Shows which were great successes, being viewed by 8,012 visitors in 1961 and 16,439 visitors in 1962. The Guild sponsored Festival of Garden Lights was viewed by 9,317 persons. In the future these two major attractions will be alternated on a year to year basis.

The two Camellia Shows and the two Daffodil Shows were outstanding successes. Rose Pruning Demonstrations were attended by 3,521 people during 1961 and 1962 and

the public benefited and shared in the program by receiving free cuttings of non-commercial varieties. There were 24 art exhibits held in the Hospitality House. Arbor Day programs were attended by 3,389 Brownies, Blue Birds, and Boy and Girl Scouts. Twelve Los Angeles County Employees Retirement luncheons held in the Hospitality House were attended by members of the County Board of Supervisors and 709 retirees.

There were 8,312 jeep train tours given during the two years, with 370,210 visitors taking the tours. An estimated 304 organized group tours were conducted. During the two years the Hospitality House was used by 180 Garden Clubs and other groups for meetings and luncheons.

Hundreds of erythrina seeds and plants were planted by Camp Fire Girls in their "Flame Tree" project under the direction of Descanso Gardens' personnel. A daffodil test garden was established in Descanso Gardens by the Southern California Daffodil Society and a garden of All American Gladiolus Selections planted.

The total visitor attendance for the fiscal year 1961-62 was 272,720 and for the fiscal year 1962-63 was 296,335, making a total of 569,055 visitors for the two-year period.

A bubbling brook and forest trails transverse
the shaded portion of the 13 acre Native Plant Garden.

EDUCATION

This Division was given individual status in July, 1961. It is responsible for the service and promotion of information and education in horticulture, botany, conservation, nature study and California history. The activities and programs of this Division provide for pre-school through senior citizen age levels and embrace all of the Department's facilities.

Under the Chief, the Education Division is organized in the following manner: 1) Adult Education Section, 2) Youth Education Section, 3) Information Section, 4) Library Section, 5) Historical Section, 6) Education Service Section (Staff Artist), 7) Professional Gardener School. Sections 1, 2, and 3 consists of both an Arboretum Unit and a Descanso Gardens Unit.

This Division assists in carrying out the following stated objectives of the Department:

A. To foster more extensive and intelligent use of ornamental plants and trees.
B. To conduct a gardening school for training skilled personnel.
C. To serve as an information center for horticulture.
D. To provide a horticultural library.
E. To preserve early California architecture and historical gardens.

Adult Education: Although the future belongs to children, home yards and gardens are cared for by parents now. Adults request instruction in many fields of horticulture in order to have healthy and beautiful plants, flowers and home grounds. Professional plantsmen need brush-up classes to keep abreast of new developments in horticulture.

Classes offered are:

1. ARBORETUM: Home Landscaping; Plant Identification; Plant Diseases; Soils; Turfgrass Management; Plant Materials in Landscaping; Plant Combination Theory; Botanical Sketching.
2. DESCANSO GARDENS: Home Horticulture; Home Landscaping; Botanical Sketching; Nature Study.

Student Registration:	1961-1962	1962-1963
Arboretum	324	357
Descanso Gardens	220	288
Totals	544	645
GRAND TOTAL	1,189	

The Department has had the cooperation of the following agencies in carrying out the Adult Education program: Adult Education, Arcadia Unified School District; Extended Day, Pasadena City College; University Extension, University of California, Los Angeles.

The initial contact has been made with Adult Education, Torrance Unified School District for cooperation in developing an adult education program for the South Coast Botanic Garden facility.

FM Radio Education Program: On January 7, 1963 the Education Division's first radio program, 'Horticulture and Gardening' was broadcast over station KMAX-FM, Sierra Madre, California. The program is designed for the home gardener and the professional plantsman. Each of the half-hour programs includes the "Information Window" and the "Guest Plantsman Interview." The program is produced, narrated and recorded by the Chief, Education Division. Station KMAX-FM presents this program as a public service on the second and fourth Friday of each month at 2:30 p.m. To date, 12 programs have been presented.

Youth Education Section: The Education Assistant supervises all the programs of Youth Education at both the Arboretum and Descanso Gardens. Three types of real-life, educational experiences characterize the work of this Section: formal classes, school field trips, and special horticultural events.

To the extent of available facilities, formal classes are offered throughout the entire year at both the Arboretum and Descanso Gardens. Such titles as: Exploring

Nature, Indoor Gardens, Life in the Lagoon, and Greenhouse Gardening hint at the content of the courses.

School Field Trips for elementary grades are conducted by trained Information Aids and are offered every week-day morning. At the Arboretum, schools may select: Early California History, Plant Science, Plant Insect Relationships, or Nature Study. An especially fine nature and conservation trip is conducted at Descanso Gardens.

Arbor Day, a special horticultural event, centers on awakening children to the importance of trees.

Children Participation

Activity	Arboretum		Descanso	
	1961-62	1962-63	1961-62	1962-63
Formal Scheduled Classes				
(11 subjects)	441	(9 subjects)	360	
(12 subjects)		661(12 subjects)		329
School Field Trips	17,526	17,531	5,238	5,062
Arbor Day Programs	2,031	1,600	789	2,600
Special Field Trips	276	169	---	---
Youth Leadership Workshops	24	32	17	7

A Garden for Handicapped Children at Descanso Gardens was arranged for use by Roosevelt School of Pasadena for one year (1961-62). The Descanso Gardens Guild assisted in providing a blacktop path, a 16' square potting yard and two raised beds for wheel-chair students. Eighteen two-hour work periods were attended by 220 children and 37 adults. In 1962-63 one Guild member contributed a total of 80 hours supervising class operations every Monday; 897 students attended.

Teacher Institute Sessions in 1961-62 were attended by 55 elementary teachers from the Los Angeles City District. In 1962-63 sixty elementary teachers from the Los Angeles City District and 20 Elementary Outdoor Education teachers from the Los Angeles and Long Beach areas attended.

In 1961-62 consultations were arranged for the following groups: Elementary Science Supervisors of the Los Angeles City District, Pasadena Boys' Club staff, El Monte Lambert Park Gardening program, Eaton Canyon Committee of Los Angeles County Parks and Recreation, La Canada School Principals Coordinating Council and Roosevelt School for Handicapped Children in Pasadena. In 1962-63 consultations were held with representatives from Michigan State College and Longwood Gardens, as well as with the Elementary Science Supervisors of the Los Angeles City District, Linda Vista School, La Puente Elementary Schools and San Gabriel Schools.

Special class projects have been displayed periodically in the Junior Museum, in the Arboretum pavilion display case and in the Garden House and Youth Education Buildings at Descanso.

In August, 1962 this Section negotiated with the Willows Refuge in central California to obtain native water birds for the Arboretum Lagoons. Cackling, Lesser, and Canadian geese were introduced, as well as two Whistling swans.

In March of 1963 the California State Fish and Game Department and the Chino Fisheries Unit assisted in "pond management" of the Lagoon. Three-hundred and sixty-five fish (90% carp, 10% green sunfish and large mouth bass) were removed in four days by the use of rotenone. The Lagoon was restocked with bluegills. Also in March, 1963 a stationary, spray-type bird fountain was installed at the Descanso Youth Education Section. This was a gift of the Pasadena Writer's Club.

Information Section: This Section is supervised by a Head, Arboretum Information. The services of this Section includes: conducting guided tram and special tours, operating an Information Window, answering telephone inquiries, writing news releases for radio and TV spot announcements, writing horticultural articles of a practical nature and performing related photographic work.

Attendance records are a major responsibility of the Information Section. Total attendance, as recorded at the turnstiles of the Arboretum and Descanso Gardens was:

	ARBORETUM	DESCANSO GARDENS	TOTAL DEPARTMENT
1961-62	412,111	272,720	684,831
1962-63	435,163	296,335	731,498
Grand Total	847,274	569,055	1,416,329

The following is a comparison of attendance totals of various flower shows held at departmental facilities.

	1961-62	1962-63
ARBORETUM		
Begonia Show	5,581	6,026
Camellia Show (First Show)	7,216	10,656
Epiphyllum Show (First Show)	7,982	6,202
Fall Flower Show	13,110	10,761
Geranium and Pelargonium Show	----	7,752 (First Show)
Home Owners Lawn Show	----	6,221 (First Show)
Orchid Show	13,771	-----
Gladiolus Show	-----	6,520 (First Show)
Spring Flower Show	-----	7,539
DESCANSO GARDENS		
Camellia Show	16,933	13,599 (Rain)
Daffodil Show	3,417 (Rain)	9,213
Night Lighting Show	9,317*	-----*
Christmas Arrangements Show	8,012*	16,439*
SOUTH COAST BOTANIC GARDEN		
Annual Flower Show	-----	3,000 (First Show)

* The Night Lighting Show and Christmas Arrangements Show will hereafter be held in alternating years.

This Section also provided educational films of horticultural interest for public viewing on Saturdays during the summer months at both the Arboretum and Descanso Gardens. Films are furnished without charge by various government and film agencies, and are shown free of charge.

Both the Arboretum and Descanso Gardens are bird sanctuaries. Bird Walks are conducted from October through May. The Pasadena Audubon Society furnished leaders at the Arboretum for the walks on the first Sunday of each month, from 7:00 a.m. to 9:00 a.m., and the San Fernando Valley Audubon Society furnished leaders at Descanso for the second and fourth Sundays of each month, from 8:00 a.m. to 9:30 a.m.

In cooperation with the Los Angeles County Health Department, the Department helps distribute mosquito fish to owners of outdoor ornamental pools. This has proven beneficial in the abatement of the mosquito pest.

A "Plant of the Week" display was started at the Arboretum late in 1962. Through the use of directional arrows, the visitors are directed to an outstanding plant specimen. There, a legend gives the complete story of the plant, its cultural requirements and economic uses.

In the past two years this Section, using photographs, plants, maps, and printed materials, has arranged exhibits at Bullock's in Los Angeles; the International Flower and Food Show at Hollywood Park; the Equipment and Material Education Exposition sponsored by the Southern California Turfgrass Council at Brookside Park, Pasadena; and at the dedication of the Antelope Valley Courthouse in Lancaster.

A new tram loading station was constructed at the Arboretum in early 1963. The covered waiting facility is approximately 25' x 40' and seats 200 visitors who, from this vantage point, enjoy a beautiful vista of the new Entranceway mall, pools, and marble walls while awaiting their twenty-minute tram tour.

Library Section: The Library continues to grow. Holdings now number 12,763 catalogued and 10,687 uncatalogued items. Some of the most outstanding acquisitions of the past two years have been three volumes of Bentham and Mueller's "Flora Australiensis," Li' "Forest Botany of China," Sargent's "Forest Flora of Japan," and Marloth's "Flora of South Africa." All of these botanical classics were obtained for the Library by The California Arboretum Foundation, Inc. Several files of valuable journals were given to the Library by friends, and a valuable small library was donated from the estate of a former Foundation member. The library of the California Garden Clubs, Inc. has also been loaned to the Library.

With the completion of the cataloguing of periodicals, the entire backlog is finished insofar as seems advisable. This has led to our current and continuing project: developing and completing the files of the periodicals where possible and desirable.

During the two-year period 724 volumes were bound. In great measure this completes our binding backlog.

Public users of the Library average 357 monthly, and the reference work involved amounts to two hours of staff time per day.

Certain groups interested in libraries as institutions have studied ours as illustrative of a specialized library.

Historical Section: With the appointment of an Associate Curator, the State Historical monuments in the Historical Center are receiving skilled museum-type care. Repairs of furnishings, materials, glass and bric-a-brac, mothexing, etc., are done without outside help. Protective windows of plastiglass are being designed for and tested in the Queen Anne Cottage, along with revisions in lighting to eliminate reflection problems. Protective grill gates have been installed in the Hugo Reid Adobe. Glass enclosed exhibit cases are used in the Coach Barn for historical artifacts, and proper guard rails have been placed around the Baldwin Coach and other large objects displayed in the Coach Barn. All buildings have been inspected and treated for termite control, although the wickiups and ramada, which are constructed of tule and willow, were damaged by weathering and present constant repair problems. The statue on the Mall, which had been resting on wooden logs, has now been safely placed upon a permanent concrete base.

The Queen Anne Cottage and Hugo Reid Adobe were used to display seasonal decor of the period for Christmas and other important days. The Coach Barn has been used for exhibits of many kinds; some in art, like the George Ford Morris posthumous one man show. This had to be repeated before his famous horse paintings were sent to Kentucky for permanent display in the Museum of the Horse. Other exhibits, like Agricultural Tools Throughout the Centuries, and Gold and California, proved to be exceptional attractions, especially for educational institutions.

Docent (museum apprentices) Workshops were conducted Saturday mornings. During the 1962 summer sessions, youth group workshops were initiated to teach California history. School tours were conducted through the Historical Area by the Curator on Tuesdays through Fridays, and by Information Aids every school day morning. Numerous other special tours were also conducted by the Curator in the afternoons and on weekends.

Education Service Section: Routine work of the Staff Artist involved mimeographing news releases for the Arboretum, Descanso Gardens and occasionally South Coast Botanic Garden, as well as mimeographing reports of meetings, various notices, working forms, etc. The artist designed covers for special event programs, including the 1959-1961 Biennial Report cover, and made all necessary signs for flower shows, conferences, lectures, etc.

The Staff Artist instructed three adult Botanical Sketching classes - one at the Arboretum, and two at Descanso Gardens. Six of his students have gone into the professional field as a result of his teachings. The students have often exhibited their work and many have won awards.

Professional Gardener School: The Professional Gardener School is a year's program of basic training in applied horticulture. The curriculum and objectives are designed to prepare men and women for occupations in nurseries, parks, arboreta, botanic gardens, landscape construction and landscape maintenance.

The following partial list of the lecture phase and practical phase subjects indicates the nature of the training available:

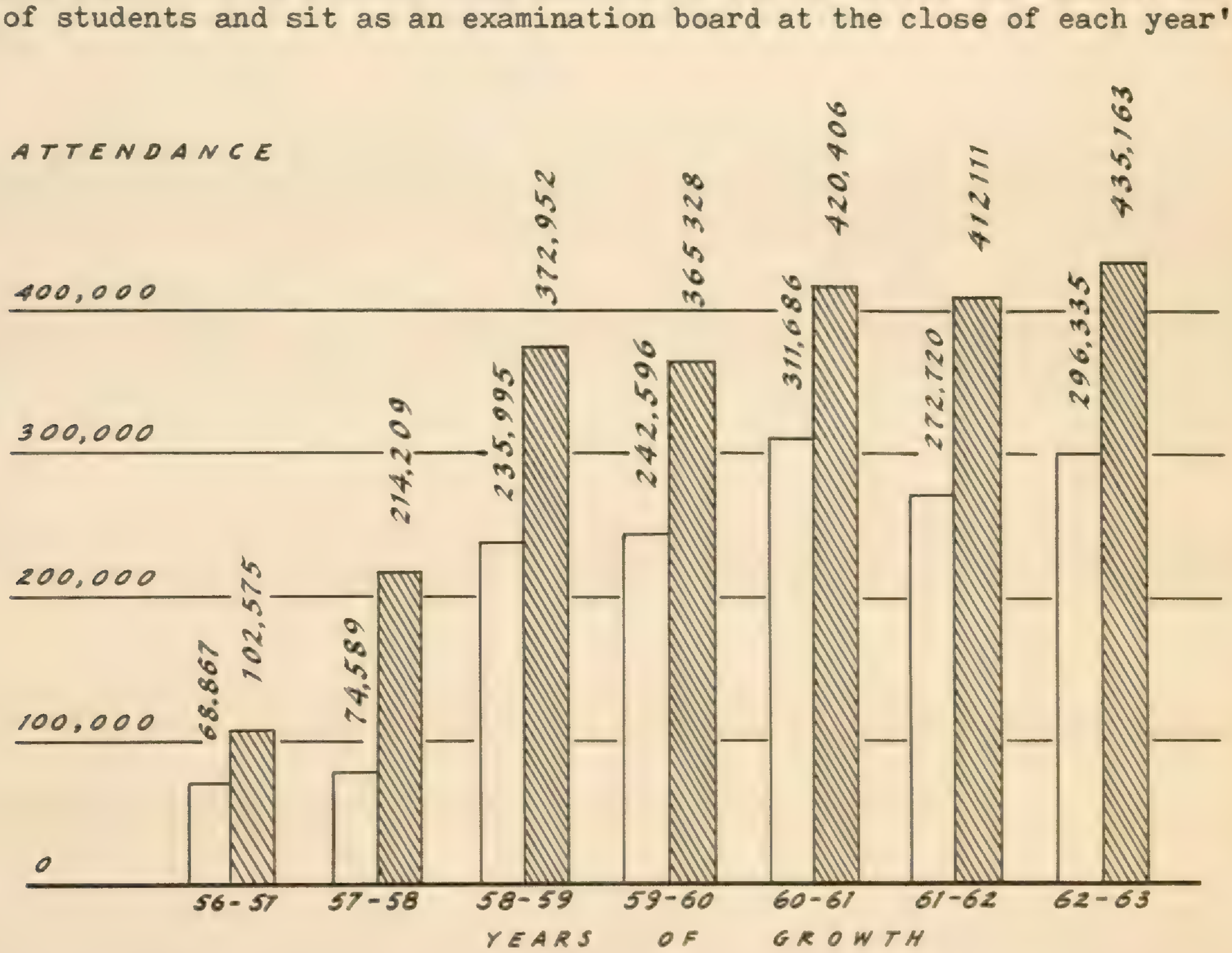
Lecture Phase		Practical Phase	
General Botany	30 hours	Greenhouse	2 months
Plant Identification	30 hours	Rose pruning	1 month
Plant Pathology	24 hours	Field planting	5 months
Soils	8 hours		

In addition, approximately 20 days are spent working in a commercial wholesale nursery for on-the-job training. There were field trips to other botanical gardens as well as specified horticultural meetings designed to broaden the students over-all knowledge of nursery plant work.

The School, which has been in operation since September 1960, had 5 students enrolled in 1960-61, 5 in 1961-62, and 10 in 1962-63. Although the Department does not maintain an employment service, some of these first graduates have been placed in good beginning positions within the nursery industry of Los Angeles County. Several of the graduates are continuing their education in nearby colleges in the field of ornamental horticulture or landscaping.

Since the School is in its early stages of development, an attempt is made to include students whose individual needs often differ. To this end, each year's class has had one or two students who are trainees of the California State Vocational Rehabilitation Department.

A Professional Gardener School Advisory Committee was formed in 1963. This volunteer group of men represents the following career fields: college, nursery, industry, Los Angeles County Civil Service, Los Angeles County Farm Advisor, landscape maintenance and landscape architecture. The Committee's requested service is to guide the future development of the School and to help solve training problems which arise during each school year. It is planned that members of the Committee will assist in the selection of students and sit as an examination board at the close of each year's school session.



The accompanying listed staff publications found on page 19 at end of report, serve as a partial index of the activities of the Research Division. In addition, the following information is presented.

Plant Identification Section

Herbarium Unit: Organization of the recently-activated Herbarium has been completed. To date approximately 17,000 herbarium specimens have been collected or otherwise added. Significant contributions of specimens were made by Mrs. Charles P. McCullough, Mr. and Mrs. Karl M. Wagner, Mrs. Scott Wallace, and Mr. and Mrs. Russell S. Woglum; the Woglum Herbarium's contribution is especially noteworthy, representing over 4,000 collection numbers. A detailed survey of cultivated-plant materials along the lower Santa Monica Canyon, made in cooperation with the County Flood Control District, provided a fine collection of subtropical specimens for the Herbarium. Particular emphasis has been given to developing strong herbarium representation of the extensive Acacia collection at the Arboretum.

Processing of raw collections in the Herbarium has received impetus through the recent, part-time services of two preparators, in addition, special assistance has been voluntarily provided by Mrs. Frieda K. McGuire.

As recipient of a U. S. - South Africa Leader Exchange from September to December, 1961, the Director collected seed and herbarium specimens in South Africa. Over 1,000 sheets of dried plants were received by the Herbarium representing 355 species. Seed of 255 species of trees, shrubs, and herbarium plants was introduced.

As a public service, this office has identified an estimated 1,500 specimens brought or sent in by high school or college students, teachers, home owners, nurseries, and general public.

During the past two years this office also has been consulted numerous times by local law enforcement offices involving identification of plant material in criminal cases such as murder, rape, burglaries, and narcotics.

Many times this office has been consulted by the local physicians, hospitals, and particularly by worried parents concerning a poisonous plant eaten by children.

The Plant Taxonomist served as consultant and botanical authority for the Los Angeles County Flood Control District and the County Counsel in a $500,000 law suit against the County. Judgment was rendered by the court on August 29, 1962 and was considered to be most favorable to the County due, primarily, to the botanical testimony given.

Identification Unit: This unit, consisting of a Plant Recorder and Assistant Plant Recorder, is responsible for: accessioning and recording the complete history, cultural data, nomenclature, source, and disposition of plant or seed material arriving or leaving the Arboretum. The unit is also responsible for receiving, cleaning, packaging, storing and issuing seed used for planting at the Arboretum and outlying areas, as well as preparing seed for exchange with other arboreta and botanical gardens throughout the world, County, state, municipal departments, California Arboretum Foundation members, nurserymen, or other interested horticulturists. It is estimated that approximately 475 institutions have received this service each year of 950 for the two-year period.

This unit has prepared and forwarded "Condition and Survival Reports" for plants growing on the grounds to all persons or institutions requesting this information.

This unit serves as the information center of Arboretum plantings. Much time is required answering staff and public questions concerning location, source, and age of plants on the grounds. It also maintains weather records including the temperature, humidity, evaporation, and precipitation occurring at Arboretum Weather Station number 1037-E. Information is recorded daily and reported monthly to the Los Angeles County Flood Control District. Weather information, upon request, is furnished to Arboretum staff, newspapers, and the public.

The following is a tabulation of Seed and Plant Control Statistics for the years:

	1961-62	1962-63
Accessions	1,289	884
Seed planted	688	795
Cuttings inserted	710	2,035
Plants moved into one-gal. cans	1,051	2,312
Plants moved into five-gal. cans	44	224
Plants moved to permanent field locations	2,018	1,913
Approximate number of species and varieties of plants on Arboretum grounds.	9,600	9,800

Labelling Program: The unit continues to research materials of various kinds in an effort to find the most suitable, durable, and economical label for field display use. At present "gravoflex" is used for engraved labels and laminated fiber-glass for 95% of the field use. Embossed aluminum is used for complete identification purposes.

An analysis of the various types of labels prepared for Arboretum use follows:

	1961-62	1962-63
1. FIBRE-GLAS - laminated typed insert	2,089	2,327
2. GRAVOFLEX - engraved-phenolic plastic	211	50
3. ALUMINUM TAPE - machine embossed	3,476	1,016
Totals	5,776	3,393

Weather data for the two-year period:

	Date Recorded	1961-62		1962-63
Lowest temperature	Jan. 14, 1962	31°	Jan. 13, 1963	25°
Highest temperature	Oct. 15, 1961	105°	Aug. 16, 1962	101°
Total precipitation	Annual	25.92 in.		11.19 in.
Total evaporation	Annual	47.75 in.		45.89 in.
Number of days rainfall recorded		35 days		34 days
Heaviest monthly rainfall was February		14.47 in.		5.37 in.

Horticulture Section

Plant Breeding: The cooperative program with Brookhaven National Laboratory has been continued and expanded. Seed of five additional genera were treated at 10-12 dosage levels of X-ray and neutron radiation to induce mutagenic response. The young plants from this irradiated seed have been transplanted to the newly-developed experimental garden, along with surviving plants of other genera from earlier irradiated materials.

Preliminary hybridization was attempted on a limited scale within several genera of the Myrtaceae, Pittosporaceae and Proteaceae. Crosses made within the latter two families either failed to develop, or where apparently successful, failed to germinate. Capsules are approaching maturity in crosses involving Callistemon and Melaleuca.

Plant Physiologist: Studies on the fire resistant plant research project to July, 1962 were summarized in an article "Research with slow burning plants" by Francis Ching and William Stewart in the Journal of Forestry. In August, 1962, the senior author was appointed Chief Horticulturist. His work was assumed in September by Robert Gonderman.

Since January 1, 1963 this section has been enlarged to include two research assistants.

Preliminary results have been obtained on the following projects: Selection of new fire resistant plants; field seedling methods for fire resistant plants; maintenance of green color in winter turf; and, control of Johnson Grass in turf.

The Fire-Resistant Plant Program is being emphasized as it is of utmost importance to the County. A demonstration plot of fire resistant plants has been established at the Arboretum. Additional research projects are: Selective herbicides; prevention of

fruit formation on street trees; quantitative measurement of cold-hardiness of camellias; turfgrass irrigation and culture; and new varieties of lawn grasses.

Entomology: Research is being continued on problems relating to the biology and control of insects which produce galls on ornamental shrubs and trees, with significant progress already made on the Ceanothus stem-gall moth, Periploca ceanothiella. It was found that this pest could be controlled satisfactorily by the application of the systemic insecticide, 'Dimethoat,' during summer when the larvae are actively feeding within the stems. Although the spray was effective against the injurious larvae, it had no apparent effect against the parasitic wasps, and as a result such spraying brought about a preponderance of the parasites which helped even further in controlling the gall insects.

The work of the Entomologist includes identification of insects and assistance to those who request help on pest control problems. Educational exhibits have been prepared to acquaint the public with various insect species, including the honeybee. Observation colonies of bees and the Comstock Collection of insects on loan from the County Museum are maintained for the education of tour groups as well as for the general public.

Plant Pathology: During the past two years duties of this position has included:

Diagnosis of plant disease problems, control recommendations, and evaluation of results at the different facilities of the Department.

Dispersal of information regarding specific disease problems to the public which required direct consultation concerning disease problems, laboratory examination of plant materials submitted to the Department, diagnosis of plant disease, and suggested control measures.

The emphasis on plant disease research is on the control of the Oak Root Fungus (Armillaria mellea). This fungus is a serious threat to about 90% of the ornamental plants in Los Angeles County. Efforts to control this fungus include and require the testing of desirable ornamental plants to determine possible resistance to the disease under field conditions. Over 300 plants have been established and are now under test at Descanso Gardens and the Lux Arboretum. Thus far, over 20 plants have become diseased. Five genera are represented in the diseased plants: Brassia, Cassia, Euphorbia, Geranium, and Pinus. In addition, efforts are being made to find, and evaluate systemic chemicals which move through the plant internally and destroy the fungus.

Projects supported by grants: Camellia research. Objectives are to develop in camellias new flower colors, fragrance, and increased cold resistance. Funds provided by the Camellia Research Committee are matched by the County to support the full time employment of one geneticist and one-fourth time employment of a second geneticist. To date, about 10,000 progeny have been produced from controlled crosses. In addition, relationships between species are being determined by paper chromatographic techniques. Entomological research. Studies are continuing on inheritance of food plant preferences by insects. Larvae are force-fed for several generations on plant species of low preference. It is found that subsequently these species become high preference. The genetics of this induced change in feeding habits is being further studied. Air pollution research. This project, supported by Grant No. AP00132 is to determine the effect of air pollutants on plant tissues. The method is based on the use of tissue cultures as well as observations on intact plants. Results to date have shown a growth inhibition of about 50% of all tissues studied. It was found this could be counteracted by ascorbic acid (Vitamin C), glutathione, or cysteine added to the tissue culture medium; or in case of intact plants when applied to the foliage or soil. Preliminary tests have shown that addition of these chemicals to the wash-water system of an air conditioner reduces the smog (oxidant) by about 50% more than by the water alone. The water alone, however, is effective and reduces the smog by about 50% compared with unwashed air.

Very limited trials with these chemicals in ointments suggests they may be used to overcome the respiratory and eye irritating effects of smog on humans.

SOUTH COAST BOTANIC GARDEN

By the end of 1964 it is anticipated, based on estimates by the County Sanitation District, that the entire 87 acres at South Coast Botanic Garden will be turned over to this Department for operation and maintenance. By June 30, 1963, the County Sanitation District turned over for development and maintenance approximately 35 acres or over 9 times the original 3½ acres the Department received in April of 1961. Since July of 1962, this Division was staffed with only two permanent employees and a part-time summer worker. However, as additional acreage is turned over by the District, it is anticipated that additional employees will be approved to develop the grounds.

The South Coast Botanic Garden was initiated in response to many requests from interested citizens and garden club groups. The Board of Supervisors, realizing the value of a botanic garden, took action which resulted in the formation of this facility on or about March 1, 1960. Subsequently, an agreement was reached with the County Sanitation District whereby the Department of Arboreta and Botanic Gardens operates and maintains all acreage as the District completes their landfill operations.

Thus, this development of the landfill area is a saving to the taxpayers as it eliminates what otherwise would have resulted in temporary maintenance costs.

In the spring of 1961 following the installation of a temporary waterline, five acres of the total area were brought to finished grade and turned over to our Department to commence the planting of the slopes. On April 8, 1961, after two weeks of soil preparation the planting ceremonies were held with more than 400 people present. Many donated plants and shrubs, and some of these were placed on the slopes immediately following the ceremonies. The week following the plantings, Department employees made three visits a week in order to properly care for the collection which now numbered over 35,000 individual plants. Maintenance was performed in this manner with only a few plant losses until July of 1961 when a half-day position for the Garden was granted. This man, under the supervision of the Chief Horticulturist, worked tirelessly to maintain this area.

In the fall of 1961 a Girl Scout emblem of California poppies outlined in vetch was planned and planted. The emblem was replanted with Girl Scout roses the following year. Mr. Theodore Payne, venerable plantsman, donated $100 worth of California poppy seed to beautify the slope area along Rolling Hills Road. Among many plant donations received was one from the Richfield Oil Company who gave $1,000 worth of Wildflower seed that bloomed again in profusion in 1963.

An 8' x 12' shed was obtained from the Arboretum as an office and tool shed. Also, since there were no funds for soil amendments such as sulpher, leaf mold, redwood shavings or nitrohumus, the Department depended on gifts from local citizenry and friends in the different branches of related plant product firms or nurseries. Persons maintaining horses in the Rolling Hills area were allowed to bring in stable manure and shavings without being charged the usual dumping fee if they were for use at the Garden site. About 260 cubic yards of fertilizer were so received during the first four months of 1962, saving the County over $1,000. Forestry camp juvenile crews worked for over a week removing masses of weeds, repairing a road, installing trails, and performing other heavy labor to substitute for tractor work.

March 3, 1962 the 4H Club donated an 8' "Umbu" tree, (Phytolacca dioica) at the first annual Arbor Day, complete with appropriate ceremonies and speakers. Plantings continued during this period but weeding became a serious problem.

In July 1962 the temporary office shed was moved to the south end of the Garden and in August electricity and phone services were installed. A new position of Supervisor, South Coast Botanic Garden was obtained and placed officially in charge in July, 1962. Also in July a position of Park Maintenance Man and an As Needed Park Maintenance Man Helper for the summer was added. Many local horticultural inquiries of citizens were answered by the Supervisor during the first six months after moving to the South Coast and Palos Verdes area.

An Aqua Dial sprinkler system was installed in August of 1962 on the east side of a six-inch water main increasing the volume, easing the watering problem, and saving many man hours of hand watering. During the months of September and October the greatest

volume of plantings since the inception of the Garden were performed. Donations of plants continued with a $5,000 gift received from the Del Amo Nurseries. A donation by the Huntington Estates of San Marino was received and this provided the nucleus of a fine representative collection of cactus and larger succulents estimated in value at $3,000. Other donations received include a shed from Redondo Beach and a truckload of nitrolized sawdust for the soil, as well as a gift of 350 pine seedlings from a Japanese gardeners group for helping them with plant culture problems. On three successive Saturdays in October, several volunteer workers from the South Coast Botanic Garden Foundation, Inc. erected a 30' x 40' saran shade house for our plants and a place for propagation of new plants. During October and November, two volunteers commenced propagations of plants by seeds, cuttings, and divisions while working a minimum of twelve hours weekly.

A weather station complete with gauge and maximum-minimum thermometer was installed to adequately record weather extremes for plant growth problems.

Dust and fine particles of diatomaceous earth presented a serious problem. A donation of 125 cubic yards of mixed sawdust and shavings of different woods was received from Long Beach Shavings Company and was spread by hand to control the dust.

In January the Girl Scouts donated money for 200 rose bushes to be planted in the form of a Girl Scout pin, and when in bloom will give the emblem a beautiful gold color.

Wildflowers in great profusion were planted on the east slopes which brought many compliments to the Garden during the spring of 1963. The winter rains did a minimum of damage on slope areas since existing paths through the area had been located to prevent erosion.

Arbor Day ceremonies, 1963, brought out nearly 200 persons with several organizations, clubs, and societies participating and donating trees.

The First Annual Flower Show, sponsored by the Foundation was held from May 31 through June 2 with over 200 entries representing local merchants and nurseries. Over 3,000 persons from the South Bay area attended.

A 36' x 40' building of finished redwood with a roof and sides of translucent plastic were donated by the Filon Corporation and Redwood Association of California. It was erected by volunteer labor composed of Foundation members, and will serve as a permanent greenhouse structure. Also, a new 75 bushel manure spreader donated by the Foundation in the spring of 1963 was received and over 2,000 cubic yards of mulches and soil amendments were spread more economically through the remainder of the fiscal year.

Mrs. Frances Young, President of the South Coast Botanic Garden Foundation, Inc. and Mr. Don Woolley, Garden Supervisor, inspect the newly constructed Filon House used by garden clubs for meetings and lectures as well as for the First Annual Flower Show held in the South Bay area.

PART III. Affiliated Non-Profit Organizations

California Arboretum Foundation, Inc.

The California Arboretum Foundation, Inc., a non-profit organization, established to support the Los Angeles State and County Arboretum is governed by an elected Board of Trustees. Officers for 1963-64 are: Mr. F. Harold Roach, President; Mrs. Rudolph J. Richards and Mr. Howard Bodger, Vice-Presidents; Mr. Howard A. Miller, Treasurer; and Mr. George H. Spalding, Secretary.

The Foundation's Historical Committee continues to fund through private sources necessary repairs and housekeeping functions for the Historical Center.

Through the Foundation, funds are provided the Herb Garden by the Southern California Unit, Herb Society of America. Planting is continually carried on in this development, and structural work is also financed from this fund.

Both the Foundation and Sunset Magazine contribute funds for the continual development and up-dating of the Demonstration Home Gardens which provides needed information and ideas to the public for adaptation in and around their own home gardens.

During the past two years, the Foundation has made major contributions to the Arboretum. These are listed below:

1. Funds for repairs and replacements at the Historical Center at the Arboretum.
2. Funds for the purchase of rare books for the Arboretum Library.
3. Contribution of funds for the Demonstration Home Gardens.
4. Funds for Architectural Planning.
5. Marble for walkways at the Bauer Pool.
6. Specimen Italian Stone Pines (Pinus Pinea) for the Entranceway Development planting.
7. Funds for further development of the Herb Garden.
8. Travel funds to provide for orchid species collecting in Guatemala, in addition to importing rare orchid plants for Arboretum greenhouses.
9. Funds for Begonia Greenhouse improvements.
10. Donations of plants and seeds totaling $5,200.00.
11. Research Grants:
    a. National Institute of Health: Research continues under a grant entitled "Air Polution Effects on Plant Tissue." Under this research program, protective elements as applied to plant tissues are in process of experimentation.
    b. National Science Foundation: Research work is continuing under grant entitled "Plant Preferences of Insects."
    c. Camellia Research: Research work is being done with objectives of producing camellia species having cold-hardiness, fragrance and yellow pigmentation.
12. Miscellaneous Services:
    a. Purchase and maintenance of trams for the convenience of Arboretum visitors.
    b. Assistance to the Childrens' Education Section.
    c. Sponsorship of horticultural lectures for the public.
    d. Joint sponsorship with outside organizations of flower shows and exhibits.
    e. Sponsorship of the Christmas Posada, special horticultural classes and special Arboretum tours.
    f. Support of the Fragrance Garden.

Descanso Gardens Guild, Inc.

The Descanso Gardens Guild, Inc. has just concluded two of the most productive years in its history. Memberships have increased to well over four-hundred enthusiastic members from all areas of Southern California. Mrs. Judge Smith of Flintridge was unanimously re-elected as President for both years.

The Guild was very active in most of the public presentations and activities in the Gardens. The two Christmas Decoration Shows sponsored in 1961 and 1962 were outstanding achievements. The Festival of Garden Lights depicted ways of transforming one's own garden into a thing of beauty at night.

To honor outstanding horticulturists, a reception was held in the Hospitality House for Mr. Ralph Cornell in 1962, and was attended by 450 friends. Mr. and Mrs. Vern McCaskill of camellia fame were the honored guests of the Guild in 1963 and were greeted by 375 guests.

Two Coleman Concerts and a presentation of Madam Butterfly were also given to overflow crowds. The Southern California Daffodil Societies Annual Show was also co-sponsored by the Guild.

All monies received from these and other Guild activities have been set aside for their master project - the building of an Oriental Tea House in the Gardens. The plans for this Tea House have already been prepared by the firm of Smith and Williams of South Pasadena.

Donations to the Gardens by the Guild included an electric panel board capable of supplying power to a great part of the Gardens, two mercury vapor light fixtures, a large gold oriental shrine, a large table and bench for the use of the Handicapped Children's Garden, the moving and installation costs of a 9' x 16' glass house, and the costs of installing a black top walk and lumber for the Handicapped Children's Garden.

Descanso Gardens California Native Plant Committee

The Descanso Gardens Native Plant Committee under the Chairmanship of Mr. Conrad Fanton of Flintridge outlined and supervised an extensive new development in the Descanso Native Plant Garden during the 1961-63 fiscal year. A new eight acre section was added to the Garden. Several hundred new native plants were set out in both gardens, including donations of 226 shrubs, trees, perennials and 62 pounds of wildflower seeds. Seven lectures, sponsored by this Committee, were given in the Garden House on subjects relating to water and problems involved in hillside planting.

The Los Angeles Camellia Council, Ltd.

Representing the Southern California, Temple City, Orange County, Pomona, Los Angeles and Pacific Camellia Societies, the Los Angeles Camellia Council was formed to sponsor one outstanding camellia show each year at Descanso Gardens. Mr. Douglas Thompson of Los Angeles was President in 1962 and Mr. Edwards Metcalf of San Marino is 1963 President.

The Council finances and maintains the jeep train that provides transportation for visitors throughout the Gardens and have added a Clark Tractor and a new two car tram to the equipment during the last two years. A power lawn sweeper and a glass trophy case also was donated to the Gardens by the Council. New and rare varieties of camellias were provided to the Gardens by members of the Council and affiliated societies, as well as an octagonal camellia display table.

South Coast Botanic Garden Foundation, Inc.

The South Coast Botanic Garden Foundation, Inc. was chartered June 6, 1961. Their purpose is to sponsor development of a botanic garden in the Rolling Hills area of Palos Verdes Peninsula in cooperation with this Department, and to encourage horticulture research, and to promote educational opportunities. They propose to print, publish, edit, distribute, and exchange horticultural magazines and papers.

The Executive Board of the Board of Trustees consists of: Mrs. Frances (R. O.) Young, President; Mr. Ove Hoyer, Mr. Robert T. Warner, and Mrs. John M. Vanderlip, Vice-Presidents; Mr. Alan True, Recording Secretary; Mr. W. C. Cocke, Treasurer; Mrs. Richard LeDuc, Corresponding Secretary, and Mr. Raymond Winters, Attorney.

There has been a continuous increase in membership without a real drive being made. There are now nearly 200 members.

The initial planting in April, 1961 set a record. In three weeks more than 40,000 plants were donated and collected by the Arboretum and South Coast Botanic Garden Foundation.

The South Coast Botanic Garden Foundation, Inc. presented very successful Flower Shows in 1962 and 1963. The 1963 show was held in the Garden and proved the interest of the community with more than a thousand per day in attendance.

Volunteers from the Foundation, in cooperation with the Department personnel, erected a Shade House for propagation and holding of plants to be planted. Two regular

volunteers have donated many hours of time to the Garden's improvement. The volunteers started, and with other members, grew many plants for the Flower Show sale to benefit the Garden.

A Display Building was erected by volunteers' labor and Department personnel in time for the Flower Show held on May 30, June 1 and 2, 1963. It is through the donations of material by the Filon Corporation and the California Redwood Association that the building was finished. It is a display place that will be used for many events.

The Foundation hopes to see and sponsor many events in the Garden and assist in its further development. The members wish to demonstrate "How citizens work with Government" to achieve the goals set forth in the beginning. A Hall of Horticulture, Library, and Administration Building are planned. When completed there will be six colleges using the facilities for botany and horticulture, as well as classes for children and adults.

PART IV. Publications by Staff, 1961-1963

Anthony, Mark J.

1961 "The Descanso Camellia Show, March 11-12, 1961." Cam. Rev. 22(50): 3. March.
1961 "Two Camellia Collections Added to Descanso Gardens." Cam. Rev. 23(1): 24. October.
1963 "Descanso's Native Plant Garden." Cam. Rev. 24(4): 31. February.

Buck, W. Quinn

1961 "First Flowering of Newly Imported Boshoff-Mostert Hybrid, Amaryllis." Plant Life, Amaryllis Yr. Book 17: 84,85.
1962 "Growing of Amaryllis calyptrata in California." Plant Life, Amaryllis Yr. Book 18: 130-132.
1963 "Mosaic in Amaryllis calyptrata." Plant Life, Amaryllis Yr. Book 19: 143,144.

Ching, Francis F. T.

1962 "Research with Slow Burning Plants." J. of Forestry. 60(11): 796-798 (with W. S. Stewart) November.

Enari, Leonid

1962 "Ornamental Shrubs of California." Publ. by Ward Richie Press Assoc. with California Arboretum Foundation, Inc. 214.

1963 "Activities of a Taxonomist." Lasca Leaves 13(1): 12-18. Winter.

Gonderman, Robert L.

1962 "Objective Measurement of Hardiness in Azalea." Amer. Rhododendron Soc. Bull. 16(4): 236,237. October.
1963 "Objective Measurement of Hardiness in Azalea." Dissertation Abs. 23(10): Univ. Microfilms, Inc., Ann Arbor, Mich.

Goodrich, Ross

1962 "Indian Oak of Interest." Lasca Leaves 12(1): 19,20. Winter.
"Ghost Gum." Lasca Leaves 12(2): 26. Spring.
"Paulownia tomentosa." Lasca Leaves 12(3): 53,54. Summer.
"Silver Linden." Lasca Leaves 12(4): 74,75. Autumn.
1963 "Viburnum rufidulum." Lasca Leaves 13(1): 24. Winter.
"The Daimio Oak." Lasca Leaves 13(2): 32,33. Spring.

Hiatt, Glenn H.

1963 "Paphiopedilum Oscar Sherman." Cymb. Soc. News 16(2): 12-16. February.

Hovanitz, William

1962 "Chemical Nature of an Insect Gall Growth Factor." Plant Physiology 37(1): 98-103 (with D. R. McCalla and M. K. Genthe). January.

Hovanitz, William

1962 "The Effect of Various Food Plants on Survival and Growth Rate of Pieris." J. Res. Lepidoptera 1(1): 21-42 (with Vincent Chang). August.
"Three Factors Affecting Larval Choice of Food Plant." J. Research Lepid. 1(1): 51-61 (with Vincent Chang) August.
"Distribution of the Species of the Genus Pieris in North America." J. Res. Lepid. 1(1): 73-83. August.
"Argynnis and Speyeria." J. Res. Lepid. 1(1): 95,96. August.
1963 "Geographical Distribution and Variation of the Genus Argynnis." J. Res. Lepid. 1(2): 117-123. January.
"The Relation of Pieris virginiensis Edw. to Pieris napi L. Species Formation in Pieris?" J. Res. Lepid. 1(2): 124-134. January.
"The Effect of Hybridization of Host Plant Strains on the Growth Rate and Mortality of Pieris rapae." J. Res. Lepid. 1(2): 157-162. January.
"The Change of Food Plant Preference by Larvae of Pieris rapae Controlled by Strain Selection and the Inheritance of this Trait." J. Res. Lepid. 1(2): 163-168 (with Vincent Chang). January.
"Selection of Allyl Isothiocyanate by Larvae of Pieris rapae and the Inheritance of This Trait." J. Res. Lepid. 1(3): 169-182 (with Vincent Chang). March.
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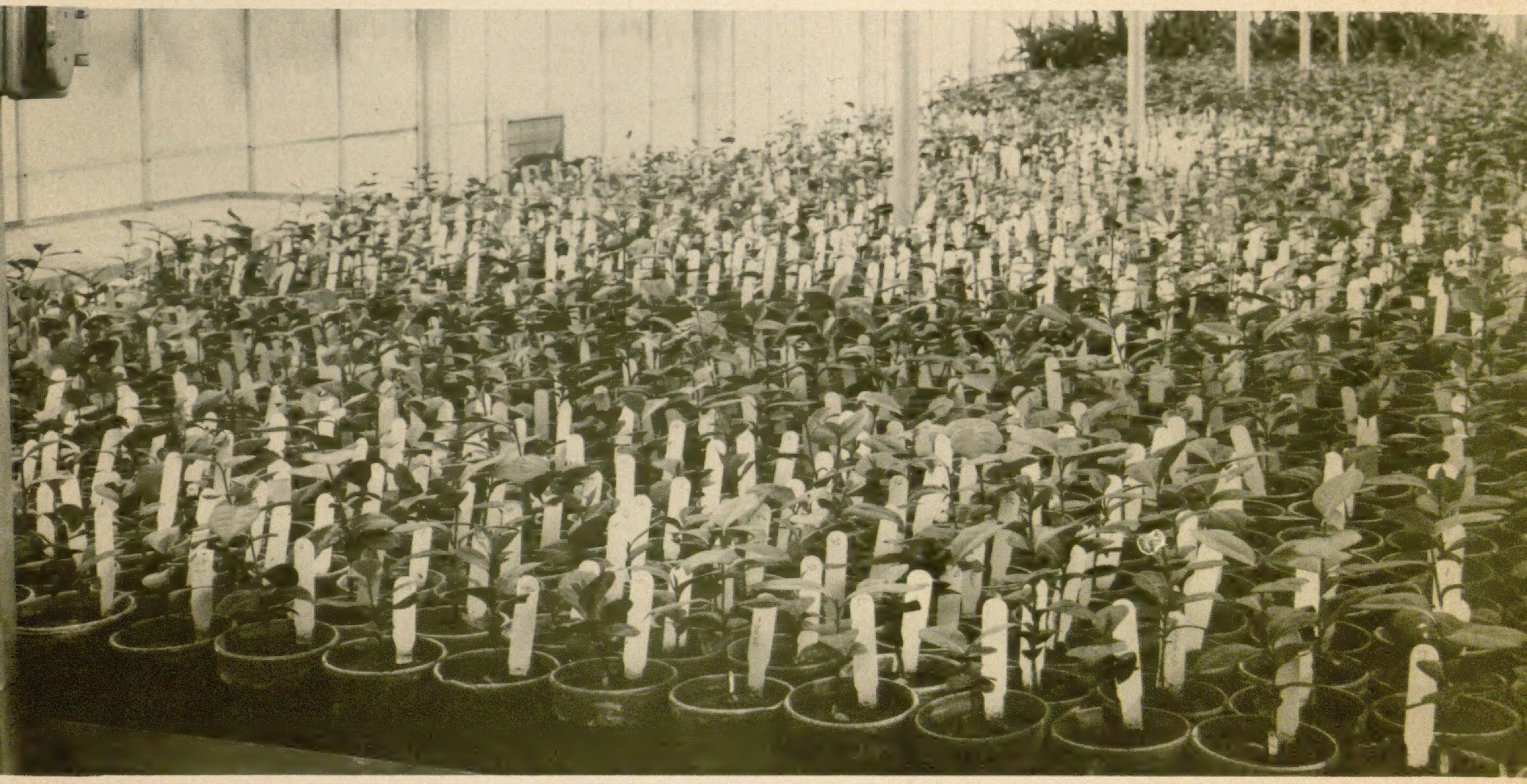

The first year harvest of camellia seed resulting from hybridization work as directed by the Camellia Research Committee in cooperation with our Department are portrayed here. The controlled climate of the greenhouse and supplementary lighting have produced prodigious growth.

PART V. Financial Report 1961-63

Departmental Summary
1961-62

	Appropriation	Expenditure	Balance
Salaries & Wages	$604,280.00	$610,618.11	(-6,338.11)
Services & Supplies	71,160.00	72,670.02	(-1,510.02)
Capital Outlay Equipment	9,734.00	7,767.23	1,966.77
Total Department	$685,174.00	$691,055.36	(-5,881.36)

Number of Budgeted Positions - - - - - - 106.6

Departmental Summary
1962-63

	Appropriation	Expenditure	Balance
Salaries & Wages	$671,830.00	$663,738.63	8,091.37
Services & Supplies	82,439.00	85,214.51	(-2,775.51)
Capital Outlay Equipment	9,390.00	7,428.68	1,961.32
Total Department	$763,659.00	$756,381.82	7,277.18
Number of Budgeted Positions - - - - - - 111.4			
Appropriation Committments	-0-	3,646.82	(-3,646.82)
GRAND TOTAL	$763,659.00	$760,028.64	3,630.36

A view of the recently completed Bauer Pool Marble Coping
and Fountain with the Jungle Area as a background

Missouri Botanical Garden Library
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The Native California Plant Section is cradled amid the natural wooded rolling San Raphael Hills. Nature trails through these native areas are utilized by families and student groups throughout most of the year.

The six acre Modern Rose Garden features roses from 1940 through present day introductions. Visitors enjoy tram tours through this and the adjacent Old Fashion Rose Garden in which roses pre-dating the Christian era are displayed.